ABSTRACT:

Postoperative ileus is an iatrogenic condition that occurs following abdominal surgery, characterized by a transient cessation of coordinated propulsive motility. The clinical manifestations include abdominal distention, nausea, vomiting, and inability to pass stools or tolerate a solid diet. Besides the discomfort experienced by patients, postoperative ileus is also an important risk factor for complications such as wound dehiscence and for pulmonary and thromboembolic complications. Current management strategies consist of perioperative anaesthetic and analgesic management, avoidance of nasogastric tube feeding and the use of supportive therapies. Although a variety of strategies have been proposed to reduce postoperative ileus, including feeding soon after surgery, early ambulation, epidural analgesia, fluid restriction, and minimally invasive surgery, none of these have been completely successful in preventing postoperative ileus. . The etiology of POI involves an inflammatory response to bowel manipulation. Experimental studies have shown that stimulation of the vagus nerve after abdominal surgery, by electrical or pharmacological means, attenuates the inflammatory response and aids in the early return of bowel function. Thus gum chewing in the postoperative period aids in the early return of bowel function through cephalic vagal activation.

Objective: To evaluate the effect of chewing the chewing gum on the early return of bowel function postoperatively in patients undergoing laparotomy.

Methodology : Two groups of patients with 50 in each are put up as study and control groups. Each of the fifty patient in the study group received about 9 pieces of commercially available sugarless chewing gum (wrigley's orbit, spearmint flavour) per day. Patients were advised to chew gum from about 6 hours post surgery. They were advised to chew gum in three sessions per day ,so 3 pieces of chewing gum per session in the morning, noon and night. All the patients in the study group were advised to chew gum till the start of the oral feeds. Patients in the control group were managed routinely by nil per oral, intravenous fluids, antibiotics and frequent clinical monitoring for the return of bowel sounds and the passage of flatus. Oral feeds were started once the patient is deemed clinically fit for feeds. Patients in this group did not receive chewing gum. The parameters monitored were postoperative day of return of bowel sounds, first passage of flatus and faeces, day of start of oral feeds,length of the hospital stay, postoperative complications such as anastamotic leak and abdominal wall dehiscence.

Results : The mean age of the patients in the study group was 46.82 yrs and that of the control group was 51.06 yrs. The total number of patients was 100(study – 50 and control – 50)

Among them the male and female distribution was 34(68%) and 16(32%) in the study group and 34(68%) and 16(32%) in the control group respectively. The total number of patients diagnosed with acute intestinal obstruction was 10 (20%) each in the study and the control group. The total number perforative

peritonitis patients were 22 and 23 in study and control group respectively. The total number of patients diagnosed with blunt injury abdomen were 3 in each of the study and the control group. Number of patients with stab injury abdomen taken up for laparotomy were 4 and 3 in the study and control group respectively. Number of patients with gastrointestinal malignancy taken up for laparotomy were 5 and 6 in the study and control group respectively. The total number of resection & anastamosis performed were 14 in each of the study and the control group. Number of primary closure of perforation done was 7 in the study group and 8 in the control group. Total number of omental patch closures done were 11 and 13 in the study and control group respectively.

Total number of gastrectomy & gastrojejunostomy done were 6 and 9 in the study and control group respectively. The total number of patients in whom there was early return of bowel sounds(within 4 days) was 43(86%) in the study group and 17(34%) in the control group respectively. The total number of patients in whom the post operative return of bowel sounds was late(more than 4 days) was 7(14%) and 33(66%) in the study and control group respectively. The total number of patients who passed flatus within 4 days was 48(96%) in the study group and 1(2%) in the control group respectively. The number of patients who passed flatus after 4 days was 2 (4%) and 49(98%) in the study and control group respectively. The total number of patients who passed faeces within 6^{th} post operative day was 48 in the study group and 2 in the control group. And the number of patients who passed faeces after the 6^{th} POD was 2

and 48 in the study and the control group respectively. The total number of patients in the study group for whom the oral feeds were started earlier (within 4 days) was 46 and that of the control group was 8. The number of patients with delayed start of oral feeds was 4 in the study group and 42 in the control group. About 48 out of 50 patients in the study group were discharged within 10 days and 15 out of 50 patients in the control group were discharged within 10 days. 2 out of 50 patients in the study group got discharged after 10 days while 35 out of 50 patients got discharged only after 10 days in the control group. There were no cases of anastamotic leak in the patients in the study group.

About 2 out of 50 patients in the control group developed anastamotic leak. 1 out of 50 patients in the study group developed postoperative abdominal wall dehiscence which amounts to 2% of the study group. While 3 out of 50 patients in the control group had postoperative abdominal wall dehiscence which amounts to 6% of the control group.

Conclusion : This study clearly shows that chewing the chewing gum in the postoperative period aids in the early return of bowel function postoperatively in patients undergoing laparotomy. Thus it can be followed as a routine for better postoperative outcomes and for decreasing the significant financial burden incurred upon the hospital by the length of hospital stay.